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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/283,781	04/01/1999	MILAN KRATKA	12406US01	1455

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MCANDREWS HELD & MALLOY LTD  
500 WEST MADISON STREET  
34TH FLOOR  
CHICAGO, IL 60661

EXAMINER

GRAHAM, CLEMENT B

ART UNIT PAPER NUMBER

3628

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/283,781

Applicant(s)

KRATKA, MILAN

Examiner

Clement B Graham

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*[Handwritten signature]*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. Claims 1-2 remained pending.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patent ability shall not be negated by the manner in which the invention was made.

3. Claim 1-2, are rejected under 35 U.S.C. 103(a) as being unpatentable Makivic U.S Patent 6,061,662.

As per claim 1, Makivic discloses system that permits the user to obtain a complete solution of a derivative security valuation problem in a single simulation. (Note abstract and see column 3 lines 5-10 of Makivic). Makivic also discloses a technique for estimating the solution of a numerical mathematical problem by means of an artificial sampling experiment. This is an established numerical method for the valuation of derivative securities. Its major strength is flexibility, and it may be applied to almost any problem, including history-dependent claims or empirically characterized security processes. (See column 1 line 45 of Makivic). Makivic also discloses traders use a model with these parameters and to predict option price movements as stock prices fluctuates in the short run. (See column 1 lines 30 –35 of Makivic). Makivic also discloses algorithm is among the most flexible and is capable of pricing any kind of option. The algorithm has a unique feature in that it can compute all the parameter sensitivities of an option price in a single simulation without resorting to numerical differentiation. An accurate determination of cost sensitivities is desirable for a practical trading or hedging strategy. The algorithm can also accept any kind of stochastic process for the underlying assets. Furthermore, option values and sensitivities can be computed for multiple values of parameters in a single simulation, which is a feature not replicatable by any other known method. This is useful for risk management purposes,

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where multiple scenarios may be superimposed on top of option valuation to establish best/worst-case exposures and other risk assessment tasks mandated by internal policies or regulators. The algorithm is also a valuable tool for sell-side firms, where it can be used as a flexible engine for the valuation of exotic one-of-a-kind derivative instruments. From an implementation point of view, the algorithm scales efficiently even on massively parallel processors; so it can take full advantage of the processing power of the machine. (See column 3 lines 40-60 of Makivic). Makivic also discloses outputting the derived option price and a graphical representation of the simulation for the underlying asset. (See column 27 line 5 of Makivic).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teachings of Makivic in order to produce a derived option price for the underlying asset. The benefit would have been the results of to achieving an option price.

As per claim 2, Makivic discloses the user inputs any of a plurality of requests and/or parameters, including an information request, input parameter set(s), partial derivatives or other output requirements, statistical quantities required from the analysis, and optional statistical procedures to be used. The user may interface the processor by any means known in the art; shown are through a personal computer to a telecommunications network (such as, but not limited to, the World Wide Web) and through a workstation 25 through an internal network. (See column 18 lines 15-20 of Makivic). Makivic also discloses that the processing system 12 contains software for performing a plurality of functions, including verifying and formatting input, initializing calculations and the computational configuration, manipulating the input data, calculating option prices and partial derivatives, performing statistical analyses, and verifying and formatting output. (See column 18 lines 5-10 of Makivic). Makivic also discloses Output from the processor is fed back to the user from an output module , such as through an interface to a printer or a display device.(See column 18 line 25 of Makivac).

## CONCLUSION

### Response to Arguments

5. Applicant's arguments filed on 03/31/2003 have been considered but they are not persuasive for the following reasons.

6. In response to applicant's arguments as it pertains to Makivic fail to teach or suggest "any risk or investment cost, and do not model qualitative or apply qualitative methodologies" the examiner disagrees because these limitations are disclosed as stated, a commercial product resulting from this invention comprises a full-service quantitative analysis resource center (QUARC). The center comprises sophisticated quantitative analysis capability, implemented on a massively parallel machine or a scalable parallel machine. In a particular embodiment the center is delivered to a user on a computer platform using network technology.

An online option pricing service is a component of the resource center, at the core of which is a Monte Carlo simulation algorithm. This algorithm is among the most flexible and is capable of pricing any kind of option. The algorithm has a unique feature in that it can compute all the parameter sensitivities of an option price in a single simulation without resorting to numerical differentiation. An accurate determination of price sensitivities is desirable for a practical trading or hedging strategy. The algorithm can also accept any kind of stochastic process for the underlying assets. Furthermore, option values and sensitivities can be computed for multiple values of parameters in a single simulation, which is a feature not replicatable by any other known method. This is useful for risk management purposes, where multiple scenarios may be superimposed on top of option valuation to establish best/worst-case exposures and other risk assessment tasks mandated by internal policies or regulators. The algorithm is also a valuable tool for sell-side firms, where it can be used as a flexible engine for the valuation of exotic one-of-a-kind derivative instruments. From an implementation point of view, the algorithm scales efficiently even on massively parallel processors, so it can take advantage of the processing power of the machine. (see column 2 lines 30-65 and column 3 lines 25-60 and column 4 lines 30-50 it is obvious that these teachings

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clearly states risk and investment cost, with qualitative or apply qualitative methodologies.

7. With respect to Applicant's argument, Examiner respectfully submits that obviousness is not determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See *In re Oetiker*, 977F. 2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Hedges*, 783F.2d 1038, 1039, 228 USPQ\* 685, 686 (Fed. Cir.1992); *In re Piaseckii*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir.1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Using this standard, the Examiner respectfully submits that he has at least satisfied the burden of presenting a prima facie case of obviousness, since he has presented evidence of corresponding claim elements in the prior art and has expressly articulated the combinations and the motivations for combinations that fairly suggest Applicant's claimed invention (See paper number 10). Note, for example, in the instant case, the Examiner respectfully notes that each and every motivation to combine the applied references are accompanied by select portions of the respective reference(s) which specially support that particular motivation and /or an explanation based on the logic and scientific reasoning of one ordinarily skilled in the art at the time of the invention that support a holding of obviousness. As such, it is not seen that the Examiner's combination of references is unsupported by the applied prior art of record. Rather, it is respectfully submitted that explanation based on the logic and scientific reasoning of one of ordinarily skilled in the art at the time of the invention that support a holding of obviousness has been adequately provided by the motivations and reasons indicated by the Examiner, *Ex pane Levengood*, 28 USPQ2d 1300(Bd. Pat. App &.,4/293 Therefore the combination of reference is proper and the rejection is maintained.

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 703-308-0505. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-0040 for regular communications and 703-305-0040 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CG

August 13, 2004



JEFFREY PWU  
PRIMARY EXAMINER